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TITLE: INFORMATION PROCESSOR

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ABSTRACT:

PURPOSE: To attain the replacement of a faulty package during the operation of a system and to improve the operating efficiency of the system by using the independent power supplies for the slots and supplying or interrupting the power to only a designated slot with the internal/external control.

CONSTITUTION: This processer is provided with a cage 1 to store the slots A-H, a power unit 2 which supplies the power to the slots A-H, a switch box 3 which controls the supply and the interruption of power to each slot, a back panel 6, and the slot power supply terminals 5A-5H. If the slot H, for example, has a fault, an operator operates a switch H housed in the box 3. Then a control signal 13H is released and the supply of power is interrupted to the slot H. The operator operates the switch H again after the replacement of control packages. Then the signal 13H is connected and the power is supplied to the slot H. In other words, a faulty package can be replaced with a nondefect one without stopping the operation of a system.

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NOVELL: Novell IntranetWare supports hot pluggable PCI from NetFRAME

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TEXT:

M2 PRESSWIRE-19 December 1996-NOVELL: Novell IntranetWare supports hot pluggable PCI from NetFRAME (C)1994-96 M2 COMMUNICATIONS LTD RDATE:181296 * IntranetWare customers can add and swap PCI cards in on-line systems with minimal server downtime Novell, Inc. today announced that customers using IntranetWare, Novell's full-service Internet/intranet access platform, can take advantage of both Hot Add and Hot Swap PCI with today's NetFRAME enterprise-class network servers. The companies will continue to work closely in the future to ensure that the recently proposed PCI Hot Plug standard will deliver the level of functionality that IntranetWare and NetFRAME customers depend on.

"Hot Pluggable PCI is a key technology for continual Internet and intranet availability," said William Donahoo, senior director of product marketing at Novell. "With today's requirement for 24-hour information access, server downtime resulting from server component failure, system maintenance or hardware expansion is unacceptable. Supporting this new technology brings a new level of flexibility and fault tolerance that helps customers build business-critical intranets."

Hot Pluggable PCI technology from NetFRAME, introduced October, 1996, enables IntranetWare customers to add and swap industry standard PCI boards and device drivers, while users remain on-line greatly reducing server downtime and service disruption. The technology supports PCI-based SCSI, Ethernet, FDDI and Token Ring interface cards and device drivers. System administrators can use this functionality to both repair and expand server storage and network connectivity without having to bring down either IntranetWare or the server.

"Novell is a leader in the network operating system market," said Steve Huey, vice president of marketing at NetFRAME. "We believe Novell is well positioned to shape the future of continuous intranet computing as organizations evolve their LANs into intranets. By shipping Hot Pluggable PCI technology today, NetFRAME makes it possible for IntranetWare users to deploy continuously available server environments."

By combining IntranetWare's unique ability to load and unload device drivers without downing the server with NetFRAME's Hot Pluggable PCI technology, system administrators can add new PCI devices to a server with no user downtime. For example, if a server's network adapter fails, it can be replaced without requiring an administrator to take IntranetWare off-line or re-booting the server. When a component is replaced, the card and driver are automatically identified and configured, and the card is instantly made available as a system resource.

Founded in 1983, Novell (NASDAQ: NOVL) is the world's leading provider of network software. The company offers a wide range of network solutions for distributed network, Internet, intranet and small-business markets. Novell education and technical support programs are the most comprehensive in the network computing industry. Information about Novell's complete range of products and services can be accessed on the World Wide Web at http://www.novell.com.

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Title: The one for the road. (mobile-aware capabilities in Windows 95) (PC Tech: Inside Windows 95)

Author: Rigney, Steve

Abstract: Windows 95 is the first desktop operating system to tightly integrate support for mobile computing with its suite of 'mobile-aware' utilities. Win 95 includes all features necessary to establish a connection to Windows NT Remote Access Services, Novell NetWare Connect or Shiva LanRover or NetModem. It also allows connections via TCP/IP, IPX, NetBEUI, SLIP and PPP. Third-party Windows 3.1-based remote access software will work under Win 95, but Microsoft's clients are true 32-bit programs. Setup and configuration are very easy with the Connection Wizard. The Direct Cable Connection option allows resource sharing and file transfer between a desktop and a mobile computer. The Briefcase utility performs file synchronization, whilePlug and Play lets Windows 95 detect a variety of notebook hardware. It automatically senses PC Cards and a variety of docking stations. Win 95 supports deferred printing, disk compression and power management and has a built-in file viewer that is useful for mobile users.

Full Text:

The first mobile-aware operating system keeps you connected without tying you down.

If you're like most notebook users, you have several different configuration settings on your PC for wherever you're currently working. You may boot one configuration to dial in from the road, another to transfer files between your notebook and desktop, and yet another to connect to a network directly. These different configurations usually require a detailed knowledge of the operating system, and you have to reboot your PC each time you want to switch a connection.

Your life as a mobile computer user is about to become easier. Microsoft Windows 95 has a number of utilities that make it the first "mobile-aware" OS--expect it to pick up and go whenever you do. These new features, most of which are optional to install, include the Dial-Up Networking, Direct Cable Connection, and Briefcase (for file synchronization) utilities; deferred printing; hardware auto-detection; and power management. All of these utilities let you work on the road in virtually the same way as when you're connected to a LAN.

Multiple Configurations

Users have always been able to connect under multiple configurations--except that under DOS or Windows 3.x, you have to reboot your PC for those changes to take effect. Windows 95 allows you to use several different configuration settings and use any of them without restarting your PC. For example, if you use an external monitor when in the office, you might need a different video driver from the one you use

with your notebook screen. Windows 95 can detect the type of monitor you are using and load the correct driver automatically; alternatively, you can use the Control Panel to create different settings for different environments manually.

The concept of implicit connections--meaning the OS can determine a file or application's origin--is one of the most innovative features in Windows 95. When you select a file or an application stored on a network resource, Windows 95 checks each of the connection methods to see which one is activated. If you are not connected, the OS automatically should establish a connection. If you have multiple connection methods installed, such as dial-up, network, and direct cable connections, Windows 95 tries each method until it successfully connects to the desired resource.

Before you can take advantage of the implicit connection features, you must install the different connection methods you will use. The easiest and most logical way to do this is to choose the Portable setup during the installation (see Figure 1); Windows 95 should automatically install the Dial-Up Networking, Direct Cable Connection, and Briefcase utilities. If you perform a custom or desktop installation, you will have to select manually the mobile features you wish to install. You can always add or remove these utilities later.

Dial-Up Networking

Remote access will likely be the most popular mobile feature in Windows 95. In a dial-up connection, also called a remote-node connection, the mobile computer simulates a LAN connection, usually over an analog phone line. A user dials a server at the office with remote-node software that encodes network protocols such as TCP/IP into more efficient packets. Other than slower network response because of the remote connection, users work exactly as if they were hooked up in the office.

Windows 95 comes with all the software you need to establish a connection to several remote-access servers: Windows NT Remote Access Services (RAS), Novell's NetWare Connect, and Shiva Corp.'s LanRover and NetModem. You can also connect using different network protocols--including TCP/IP, IPX, and NetBEUI--and the SLIP and PPP

remote-access protocols. While Windows 95 cannot be set up as a multiuser dial-up server, the separately sold Microsoft Plus! CD-ROM includes Dial-Up Server, a single-port version of RAS. See the sidebar "Microsoft RAS: Simple Remote Access" for more on Remote Access Services products.

If none of the included software meets your needs, you can always use third-party Windows 3.1-based remote-access software with Windows 95, such as Microcom's LANexpress for remote-node connections and Symantec Corp.'s pcAnywhere for remote control. But unlike other current Windows-based remote-access client software, all the dial-up clients in Windows 95 are true 32-bit applications.

The built-in Windows 95 communication tools also conform to the Microsoft Telephony API (TAPI), a set of instructions that controls all of a PC's communication functions. Without a standard such as TAPI, all communication software requires a specific initialization setting for each different modem. Unfortunately, with hundreds of modems, it is impossible for every application to know about every different modem. In the same way that Windows 3.x provides a common printer-driver interface,

Windows 95 uses TAPI to gather all of the device information and make it accessible to applications. TAPI takes a lot of the guess work out of using different modems with different applications.

The Dial-Up Networking information is extremely easy to set up and configure with Windows 95's connection wizard (see Figures 2, 3, and 4). When you start it, the connection wizard automatically looks for a modem, then prompts you for a phone number, the type of server you are calling, and user information such as name and password. You can create multiple connection shortcuts for multiple servers. The connection wizard lets you set up your area code and any numbers you need to dial to access an outside line. Windows 95 considers whether you're making a local or long-distance call and adds the area code or any dial-out code necessary.

Microsoft is also working on a scripting language for PPP and SLIP connections. With it you should be able to generate scripts that will automatically launch connections to Unix and other PPP servers.

Direct Cable Connection

Not every mobile computer user has a network or a remote-access server. For a much simpler networking solution, Windows 95 includes a direct cable option that lets you connect two PCs with a serial or parallel cable and then transfer files and share resources such as disk drives, CD-ROMs, and printers.

In addition to working with any null-modem RS-232 serial cable, the Direct Cable Connection option works with the following parallel cable types: standard 4-bit cable (such as that included with Traveling Software's LapLink); 8-bit Extended Capabilities Port (ECP) cable, which you need to enable in the BIOS; and Universal Cable Module cable, which can connect different kinds of parallel ports.

To establish a direct connection, you install the Direct Cable Connection software on both PCs, selecting the host option on the server PC and the guest option on the client (see Figure 5). Once you connect to the host PC, you can access all of that PC's files and other resources.

A direct cable connection is not as fast as a network connection--the actual throughput speed with 4-bit parallel cables is about 600 Kbps--but you should expect speeds of up to 4 Mbps using ECP-enabled cables and adapters. Parallel connections are faster than serial cables (which are limited to 115.2 Kbps), but a parallel cable can be only 15 to 20 feet in length compared with 50 to 100 feet for a serial cable.

File Transfer: The Briefcase

After you've set up the cable connection, you can quickly update the data you need by using the Briefcase. Like other file-transfer and synchronization utilities, the Briefcase allows you to transfer files between two PCs using either a network connection, a direct cable connection, or disks.

The Briefcase appears as a file folder on the desktop. When you want to transfer a file or synchronize a file with another PC, all you do is drag-and-drop the file into the Briefcase folder. You can create as many different Briefcase folders as you like. After you have moved the files to the Briefcase, you establish a connection to the destination PC via network or direct cable, or you insert a disk into the PC's drive. You

then select the proper Briefcase folder and use the Update All button on the toolbar. The files are automatically copied to their new location. The Briefcase includes a status column that indicates which files are going to be copied (see Figures 6 and 7).

In addition to transferring files from one PC to another, the Briefcase can also synchronize the entire contents of a disk drive or a subdirectory. The synchronization feature compares the size and date stamp of a set of files and copies the newest versions of your data. Unlike LapLink, which includes a delta-file transfer feature that transfers only the changes in a file, the Briefcase cannot merge the data between two files; it can only overwrite old files with newer versions. If you are on the road, you can store data in the Briefcase, and the file transfer or synchronization should occur the next time you connect to the target PC.

Other Mobile Features

Beyond the main components of Windows 95's mobile utilities are several other nice touches: Plug and Play hardware detection, deferred printing, power management, a multiformat document viewer, and disk compression.

Plug and Play. Unlike desktop PC users, mobile PC users are constantly switching between a modem connection and a direct or network cable connection. This constant changing requires a lot of different hardware and software configurations to make the hardware work. Windows 95, through the Plug and Play specification, is designed to detect different types of hardware you might use in your notebook and perform all the configuration work for you--an ease-of-use development that many long-suffering road warriors will appreciate.

Like IBM's OS/2 Warp, Windows 95 includes the Card and Socket Services for PC Card (formerly PCMCIA) adapters. The built-in Card and Socket Services should allow Windows 95 to detect a PC Card modem or network adapter automatically and load the drivers when it is plugged into your notebook. This would allow you to hot-swap multiple PC Cards without rebooting your PC. For example, when you insert your PC Card network adapter, Windows 95 should automatically detect the new card, load the proper network and card drivers, and even prompt you for your network login name and password.

In addition to auto-sensing PC Cards, Windows 95 can also detect docking stations from different PC vendors. When you insert your notebook PC into your desktop docking station, Windows 95 should automatically load the required drivers, such as video, network, modem, and keyboard. Windows 95 can also detect when you remove your notebook from the docking station; the Windows 95 Taskbar even includes an eject button that can automatically disengage your notebook PC.

When you disconnect your PC from the network or remove it from the docking station, Windows 95 should automatically unload any drivers that were in use when connected. After the drivers are unloaded, your system will have access to the memory that was being used by the network or modem drivers. This is a great feature, especially on systems for which available memory is at a premium.

Deferred printing. Another simple but useful mobile feature in Windows 95 is deferred printing. When you are on the road and need to print a file, you might establish a dial-up connection and print the documents remotely

for retrieval later or save the documents until the next time you are in the office. With Windows 95's deferred printing, you can simply print the data as if you were connected to the network and Windows 95 should store the print jobs until you are connected. You can store as many print jobs as your disk space allows. To use the deferred printing feature, you need to select the Work Offline option in the printer folder.

Deferred printing is a nice feature for mobile computer users who go into the office for short periods of time. For example, if you are in the office for only a few minutes in the morning, you might forget to print out an important contract for a meeting later in the day. With deferred printing, Windows 95 should automatically print your documents as soon as you connect to the network or another desktop PC.

Power management. Battery life is one of the most important considerations for users of portable PCs. To help maximize your computing time, Windows 95 includes a power-saving feature that should automatically put your PC in sleep mode after a set period of inactivity. The power-management utility will also disable certain application features that can quickly drain the life from your battey, including automatic document backups.

The Windows 95 power-management features are based on the Advanced Power Management (APM), Version 1.1, specification. Microsoft also provides a set of power-management APIs that allow vendors to write applications that are aware of your PC's power status. Let's say your battery is almost dead: The application might prompt you to save the document you are working on and exit the program. Some applications may actually save your document for you if you are away from the PC.

File viewer. Another useful mobile feature is the Quick View file-viewing utility. Quick View lets you view multiple file formats without having to launch the application that created them. For example, you can use Quick View to view documents, spreadsheets, and even graphics files. If it does not recognize a file type, Quick View should display the file with the default format, ASCII text. The Quick View utility is ideal if you are constantly exchanging different types of information with others and don't want to waste time launching an application just to view a single attachment.

Disk compression. In addition to draining batteries, mobile users must deal with limited disk space on their notebook PCs. Unlike desktop PCs that typically can have a 1GB disk drive, most notebooks come with only 200MB to 500MB of disk space. To cover this mobile computing problem, Microsoft included a disk-compression utility in the OS. Like MS-DOS 6.22, Windows 95 includes the DriveSpace compression utility. Unlike the DOS version however, the Windows 95 version of DriveSpace includes 32-bit code that is integrated with the file system, providing a big performance boost.

Other improvements in DriveSpace include the ability to create your system paging files (or swap files) on a compressed drive. DriveSpace is compatible with other compression utilities, including DoubleSpace, the utility in earlier versions of MS-DOS 6.x, and Stac Technology's Stacker compression software.

Down the Road

Microsoft is planning to add a wireless infrared (IR) connection

capability to Windows 95 about 60 days after the OS ships. The ability to connect to other PCs and printers without using cables or a modem eliminates even more hardware hassles for mobile computer users. An infrared connection would let you link to other PCs and printers simply by placing your notebook within close range of the other device. The OS would automatically detect the other infrared devices, install the proper network or printer drivers, and prompt the user for information such as user name or password.

Windows 95 IR capabilities will conform to the IrDA (Infrared Data Association) standards, so you should be able to connect to any IR device that follows the specification. Other software products also work with infrared and other wireless connections.

While you can use third-party products to accomplish most of the mobile communication tasks included with Windows 95, it is convenient to have all these features built in to the OS. And because the installation program lets you check off which programs you want to keep, you can easily substitute your favorite third-party utility or remote-access software. Whether you dial in to a remote-node server or just use the Briefcase to transfer files via disk, Windows 95 is well-equipped for the mobile user.

Steve Rigney is a contributing editor to PC Magazine.

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